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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/864,468	05/23/2001	Bernt Karlsson	34646-00451USPT	1742

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EXAMINER

NGUYEN, JOSEPH D

ART UNIT

PAPER NUMBER

2683

7

DATE MAILED: 11/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/864,468

Applicant(s)

KARLSSON ET AL

Examiner

Joseph D Nguyen

Art Unit

2683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 May 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3 and 4 is/are allowed.
- 6) ☒ Claim(s) 1,2,5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,5. 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Allowable Subject Matter***

1. Claims 3-4 are allowed.

The following is an examiner's statement of reasons for allowance:

2. Regarding claims 3 and 4, The Chan et al. reference discloses a method in an first mobile services switching center for updating location information of a mobile station, said method comprising: sending a home location register checksum from a home location register to said first mobile services switching center (fig. 1-3, col. 10 lines 13-62, and col. 5 line 54 thru col. 6 line 33).

This reference does not specifically disclose a method of subtracting said mobile station from a first mobile services switching center database; recalculating a first mobile services switching center checksum to account for the subtracted mobile station; sending an erasure acknowledge signal from said first mobile services switching center to said home location register; and comparing said first mobile services switching center checksum to said home location register checksum. And the step of comparing said first mobile services switching center checksum to said home location register checksum further comprises the additional steps of: sending a negative acknowledge signal from said first mobile services switching center to said home location register when said home location register checksum and said first mobile services switching center checksum are not equal; setting said first mobile services switching center database

equal to a previous correct database when said home location register checksum and said first mobile services switching center checksum are not equal; sending all logged mobile stations that have been erased from said home location register to said first mobile services switching center after receiving said error signal at said home location register from said first mobile services switching center; subtracting each erased mobile station and adding each newly registered mobile station to said previous correct database; appropriately adding and subtracting each of said mobile stations until said home location register checksum and said first mobile services switching center checksum are equal; erasing the mobile stations that are resent in said logged erasures; and stopping said sending of a negative acknowledge signal from said first mobile services switching center to said home location register when said first mobile services switching center checksum and said home location register checksum are equal.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chan et al. (5,970,144) in view of Fox (5,765,172).

Regarding claim 1, Chan et al. discloses a method in a second mobile services switching center for updating location information of a mobile station when said mobile station has moved from an area controlled by a first mobile services switching center to an area controlled by a second mobile services switching center (fig. 1-3, col. 5 line 54 thru col. 6 line 33), said method comprising:

- a) adding (register) said mobile station to a second mobile services switching center database in response to said mobile station registering with said second mobile services switching center (fig. 1-3, col. 12 lines 32- 64);
- b) calculating a second mobile services switching center the checksum so as to include the said mobile station (fig. 3, col. 9 line 35 thru col. 11 line 65);
- c) sending a home location register checksum to said second mobile services switching center from a home location register (fig. 10b, col. 10 lines 13-35, and col. 16 line 66 thru col. 17 line 58);
- d) comparing said home location register authentication and said second mobile services switching center authentication (col. 10 lines 13-35, col. 16 line 66 thru col. 17 line 58); and
- e) sending (transmit) a location registration signal from said second mobile services switching center to said mobile station (col. 16 line 66 thru col. 17 line 58). However, Chan does not specifically disclose calculating checksum and comparing checksum.

Fox teaches a method for calculating checksum and comparing checksum (fig. 5-8, col. 1 line 65 thru col. 2 line 35, and col. 5 line 30 thru col. 8 line 37). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify Chan et al. system with the teaching of Fox of comparing and calculating checksum to make sure the integrity of the databases.

Regarding claim 5, Chan et al. discloses a system for updating location information of a mobile station in a second mobile services switching center when said mobile station moves from an area controlled by a first mobile services switching center to an area controlled by a second mobile services switching center (fig. 1-3, col. 5 line 54 thru col. 6 line 33), said system comprising:

a) a first mobile services switching center (MSC/VLR system 1 of fig. 1) for communicating with said mobile station (fig. 1-2, col. 5 line 54 thru col. 6 line 33) and comprising:

- a compare authentication procedure (fig. 7, col. 10 lines 13-62, and col. 16 line 66 thru col. 17 line 58); and

- a means for calculating the public value and private value stored in said first mobile services switching center (col. 10 line 13 thru col. 11 line 65);

b) a second mobile services switching center (#106B fig. 1 system 1) for communicating with said mobile station (fig. 1-2, col. 5 line 54 thru col. 6 line 33) and comprising:

- a compare authentication procedure (fig. 10a-b, col. 10 lines 13-35, and col. 16 line 66 thru col. 17 line 58); and
  - a means for calculating a public and private value stored in said second mobile services switching center (col. 10 line 13 thru col. 11 line 65); and
- c) a home location register for providing data to a plurality of mobile services switching centers (fig. 1, and fig. 1-2 of prior art). However, Chan et al. does not specifically disclose the compare checksum procedure and calculating a checksum stored in said first and second mobile services switching center.

Fox teaches a method for comparing checksum procedure and calculating a checksum store in the first and second database (mobile services switching center) (fig. 5-8, col. 1 line 65 thru col. 2 line 35, and col. 5 line 30 thru col. 8 line 37). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify Chan et al. system with the teaching of Fox of comparing and calculating checksum in order to make sure the integrity and reliability of the databases.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chan et al (5,970,144) in view of Fox (5,765,172) as applied to claim 1 above, and further in view of Antic et al. (5,594,942).

Regarding claim 2, in the modify Chan et al. system, Chan et al. further discloses the method as recited in claim 1, wherein said step of comparing said home location register checksum and said second mobile services switching center checksum (fig. 5-

8, col. 1 line 65 thru col. 2 line 35, and col. 5 line 30 thru col. 8 line 37) further comprises the additional steps of:

- a) sending an error signal (transmits a registration notifications response signal of passed or failed) from said second mobile services switching center to said home location register when said home location register checksum and said second mobile services switching center checksum are not equal (fig. 10-11, col. 10 line 13-35, and col. 16 line 66 thru col. 17 line 58);
- b) setting (store) said second mobile services switching center database equal to a previous correct database when said home location register checksum and said second mobile services switching center checksum are not equal (col. 10 lines 13-35, and col. 11 lines 28-65);
- c) sending (transmit) authentication information from home location register to said second mobile service switching center to compare and update until the value is match (col. 10 line 13 thru col. 11 line 65). However, Chan does not specifically disclose sending all logged mobile stations that have been erased from said home location register to said second mobile services switching center after receiving said error signal at said home location register from said second mobile services switching center; and subtracting each erased mobile station and adding each newly registered mobile station identities to said previous correct database; appropriately adding and subtracting each of said mobile station identities until said home location register checksum and said second mobile services switching center checksum are equal.



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Antic et al. teaches HLR unit restart transmit a message indicating unreliable position data to all mobile service switching centers connected thereto, which means Home Location Register (HLR) is also sending all logged mobile stations that have been erased from said home location register to said second mobile services switching center after receiving said error signal at said home location register from said second mobile services switching center; and subtracting each erased mobile station and adding each newly registered mobile station identities to said previous correct database; appropriately adding and subtracting each of said mobile station identities until said home location register checksum and said second mobile services switching center checksum are equal (fig. 1-5, col. 1 line 57 thru col. 2 line 4, and col. 3 line 12 thru col. 7 line 35). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify Chan et al. system with the teaching of Antic et al sending all logged, subtracting each erased, adding each newly register mobile station identities in comparing record of registering between Home Location Register (HLR) and Mobile Service Switching Center (MSCs) in order to make sure the integrity and reliability of the databases.

6. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

703 308-9051, (for formal communication intended for entry)

Or:

(703) 305-9509 (for informal or draft communications, please label

"PROPOSED" OR "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121

Crystal Drive, Arlington, VA. Sixth floor (Receptionist).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph D Nguyen whose telephone number is (703) 605-1301. The examiner can normally be reached on 7:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (703) 308-5318. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

Joseph Nguyen



Nov. 20, 2003



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